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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/743,344	12/23/2003	Kazutaka Inukai	12732-201001 / US6877	4702
26171 7590 06/28/2007 FISH & RICHARDSON P.C. P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			EXAMINER LIANG, REGINA	
			ART UNIT 2629	PAPER NUMBER
			MAIL DATE 06/28/2007	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/743,344

Applicant(s)

INUKAI, KAZUTAKA

Examiner

Regina Liang

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 April 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 11-30, 32-36 and 44-46 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 2, 3, 13, 17, 18, 20, 21, 23, 24, 26, 27, 30, 32, 33, 36, 44-46 is/are allowed.
- 6) ☒ Claim(s) 1, 4-9, 11, 12, 14-16, 19, 22, 25, 28, 29, 34, 35 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 4/9/07.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

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DETAILED ACTION***Specification***

The following guidelines illustrate the preferred layout for the specification of a utility application. These guidelines are suggested for the applicant's use.

Arrangement of the Specification

As provided in 37 CFR 1.77(b), the specification of a utility application should include the following sections in order. Each of the lettered items should appear in upper case, without underlining or bold type, as a section heading. If no text follows the section heading, the phrase "Not Applicable" should follow the section heading:

- (a) TITLE OF THE INVENTION.
- (b) CROSS-REFERENCE TO RELATED APPLICATIONS.
- (c) STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT.
- (d) THE NAMES OF THE PARTIES TO A JOINT RESEARCH AGREEMENT.
- (e) INCORPORATION-BY-REFERENCE OF MATERIAL SUBMITTED ON A COMPACT DISC.
- (f) BACKGROUND OF THE INVENTION.
 - (1) Field of the Invention.
 - (2) Description of Related Art including information disclosed under 37 CFR 1.97 and 1.98.
- (g) BRIEF SUMMARY OF THE INVENTION.
- (h) BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).
- (i) DETAILED DESCRIPTION OF THE INVENTION.
- (j) CLAIM OR CLAIMS (commencing on a separate sheet).
- (k) ABSTRACT OF THE DISCLOSURE (commencing on a separate sheet).
- (l) SEQUENCE LISTING (See MPEP § 2424 and 37 CFR 1.821-1.825. A "Sequence Listing" is required on paper if the application discloses a nucleotide or amino acid sequence as defined in 37 CFR 1.821(a) and if the required "Sequence Listing" is not submitted as an electronic document on compact disc).

1. The disclosure is objected to because of the following informalities: the specification does not provide BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S).

Appropriate correction is required.

Drawings

2. Figure 3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). Corrected drawings in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. The replacement sheet(s) should be labeled "Replacement Sheet" in the page header (as per 37 CFR 1.84(c)) so as not to obstruct any portion of the drawing figures. If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 4, 19, 22, 28, 28, 34 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 4 is unclear since the "n" is not defined. The "Kth transistor" is also unclear since as defined in the claim, if K equals 2, then the second transistor should be "Knd" and should not be "Kth".

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 8 are rejected under 35 U.S.C. 102(b) as being anticipated by Engel (US 5,734,237).

As to claim 1, Engel discloses an electronic device (Fig. 1) having an electronic circuit (Fig. 2) comprising: a driving element including a plurality of transistor (power transistors 14); wherein the plurality of transistors are connected in series when input current (charge mode of operation, see col. 2, lines 8-17, and col. 3, lines 37-40) and the plurality of transistors are connected in parallel when outputting current (drive mode of operation, col. 4, lines 1-3).

As to claim 8, Engel teaches the electronic circuit is included in an integrated circuit.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 11, 12, 14-16, 19, 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over You (6,777,913) in view of Engel.

As to claims 11, 12, You teaches a personal computer (inherent the PC having a body, housing and an external connecting port) having a charger. You does not disclose

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the charger having the plurality of transistors, and the plurality of transistor are connected in series when inputting current and the plurality of transistors are connected in parallel when outputting current. However, Engel discloses a charging device (electronic circuit, Fig. 2) for an electronic device comprising: a driving element including a plurality of transistor (power transistors 14); wherein the plurality of transistors are connected in series when input current (charge mode of operation, see col. 2, lines 8-17, and col. 3, lines 37-40) and the plurality of transistors are connected in parallel when outputting current (drive mode of operation, col. 4, lines 1-3). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify You's charger to have the transistors as taught by Engel to increase the battery cycle life and to quick charge the battery (col. 4, lines 44-50 of Engel).

As to claims 14-16, it is inherent that the personal computer comprises a display portion, a keyboard and a pointing mouse.

As to claim 29, Engel teaches the electronic circuit is included in an integrated circuit.

As to claim 35, Engel's electronic circuit is a system circuit, and it is inherent that the electronic circuit is formed over a glass substrate.

9. Claims 5-7, 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Engel in view of Dawson et al (WO 98/48403).

As to claim 5, 7, Engel does not explicitly disclose the transistors are P-channel or n-channel type or TFTs. However, it is well known in the art the transistors are either P-channel or n-channel type, and the transistors comprising TFTs (see Fig. 2 and page 3

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line 21-23 of Dawson). Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to modify Engle to utilize the well known type transistors as taught by Dawson since TFT transistors exhibit threshold uniformity so as to reduce current nonuniformities and threshold voltage variations (page 2, lines 16-17 and page 3, lines 28-31 of Dawson).

As to claim 6, Engel does not explicitly disclose the channel lengths, channel widths and insulating film thicknesses of the transistors are all equal. However, as shown in Fig. 2, Engel uses the same type of transistors in the power transistor. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to realize the transistors of Engle have the feature as claimed since they are of the same type of transistors and it would provide the threshold uniformity.

As to claim 9, it is inherent that the TFTs are formed over a glass.

Allowable Subject Matter

10. Claims 2, 3, 13, 17, 18, 20, 21, 23, 24, 26, 27, 30, 32, 33, 36, 44-46 are allowed.

11. Claims 4, 19, 22, 25, 28, 34 would be allowable if rewritten or amended to overcome the rejection(s) under 35 U.S.C. 112, 2nd paragraph, set forth in this Office action.

Response to Arguments

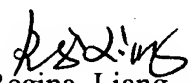
12. Applicant's arguments with respect to claims 1-9, 11-30, 32-36, 44-46 have been considered but are moot in view of the new ground(s) of rejection.

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13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Regina Liang whose telephone number is (571) 272-7693. The examiner can normally be reached on Monday-Friday from 8AM to 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard Hjerpe, can be reached on (571) 272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Regina Liang
Primary Examiner
Art Unit 2674

6/21/07


RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
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